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MARTIN & FERRARO, LLP 1557 LAKE O'PINES STREET, NE HARTVILLE, OH 44632			SNOW, BRUCE EDWARD	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/669,287  
Filing Date: September 24, 2003  
Appellant(s): MICHELSON, GARY KARLIN

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Group 3700

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Thomas H. Martin  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 8/16/07 appealing from the Office action  
mailed 6/16/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,117,174	Nolan	9-2000
5,785,710	Michelson	7-1998

4,961,740 Ray et al

10-1990

## **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to disclose an implant with upper and lower members having arcuate portions that in the first position are angled to one another over **a majority** of the length of the implant as recited in independent claim 1.

Claim 1-72, 74-76 and 84-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710) as cited in Applicant's IDS.

Nolan discloses an expansile spinal fusion implant with a portion of a frusto-conical shape and an expanding disc (Fig. 17). The implant can be cylindrical or frusto-conical in its unexpanded position. Col. 4 lines 21-23 discloses that widths 26 and 28 in figure 3 can be of different sizes, therefore the shape may be frusto-conical. The implant comprises radial bone-engaging projections. However Nolan does not disclose the radial projections as "adapted for linear insertion". Michelson teaches a fusion implant

with radial projections adapted for linear insertion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of radial projections adapted for linear insertion, as taught by Michelson, to an expansile spinal fusion implant as per Nolan, in order to "urge the spinal fusion implant forward against the solid unremoved bone further resisting dislodgement and controlling motion resulting in an exceedingly stable implantation" (Michelson-col. 9, lines 23-39).

Claims 73 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710) as above, in further view of Ray et al. (4,961,740).

Nolan modified by Michelson discloses an expandable spinal fusion implant however fails to disclose the use of hydroxyapatite as a material for the implant. Ray et al. teaches the use of hydroxyapatite as a material for a spinal fusion implant, which is useful as a bone-inducing substance (col. 4, lines 46-56). It would have been obvious to one of ordinary skill in the art to combine the teaching of hydroxyapatite as a material for a spinal fusion implant, as taught by Ray et al., to the spinal fusion implant as per Nolan/ Michelson, which is useful as a bone-inducing substance. Also Nolan/ Michelson fails to disclose the use of a snap fit cap for the ends of the implant. Ray et al. teaches the use of snap-fit caps for the ends of the implant (col. 6, line 56) to retain bone-inducing substance when it is packed into the implant (col. 4, lines 20-23). It would have been obvious to one of ordinary skill in the art to combine the teaching of snap-fit caps

for the ends of the implant, as taught by Ray et al., to the spinal fusion implant as per Nolan/ Michelson, to retain bone-inducing substance when it is packed into the implant.

Claims 77-83 and 89-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710) as above, in further view of what would be obvious to one of ordinary skill in the art.

Nolan modified by Michelson discloses an expandable spinal fusion implant however Nolan fails to disclose the use of bone, genes coding or bone morphogenetic protein as a material for the implant. It is well known to one of ordinary skill in the art to use bone, genes coding or bone morphogenetic protein as a material for a spinal fusion implant, to induce bone ingrowth into the implant. It would have been obvious to one of ordinary skill in the art to combine the teaching of bone, genes coding or bone morphogenetic protein as a material for a spinal fusion implant, as is well known in the art, to the spinal fusion implant as per Nolan/ Michelson, to induce bone ingrowth into the implant.

#### **(10) Response to Argument**

##### **Claims 1-96 are rejected under 35 U.S.C. 112, first paragraph**

Appellant's specification provides support for a "substantial portion of the length" whereas claim 1 claims "over a majority of the length". Appellant is arbitrarily defining a narrower range within a larger range which is new matter. It is also reasonable that the

supported range (substantial) does not include the new larger range (majority) which too is new matter.

**Claim 1-72, 74-76 and 84-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710)**

Appellant's quotation of Nolan, column 6, lines 3-6, stating, "*has a substantially cylindrical profile*" is noted. Appellant is very narrowly and incorrectly interpreting "substantially" to mean the upper and lower members have to be parallel. The very next line of Nolan reads, "*[a]lternatively, the profile can be completely cylindrical.*" This clearly implies "*substantially cylindrical profile*" includes the upper and lower members being non-parallel.

Referring to at least figure 3, column 4, lines 21-23 and column 2, lines 26-33, Nolan teaches the implant has a first insertion position wherein the width 26 of the first end 22 can be different than the width 28 of the second end 24. One having ordinary skill in the art would not interpret said teaching to merely the extreme ends having a different width as stated by appellant, possibly implying a stepped configuration. Nolan only shows the upper and lower members being straight. In fact, none of the references listed in Nolan's background of the invention have an implant wherein only the extreme ends are different.

Nolan clearly teaches "frusto-conical shaped implants" (column 1, lines 37-38) are known in the art and may require a tapered hole. While the frusto-conical shape (or split cylinder having relatively angled members) may not be Nolan's preferred

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embodiment, it is not outside of his teaching when stating the width of the first and second ends are different in the first insertion position. It is this Examiner's position that it is within the scope of Nolan's teachings to have a spinal implant wherein the upper and lower members in the first position are angled relative to one another over a majority of the length which forms "at least a portion of one of a frusto-conical shape and the shape of a cylinder split along a horizontal".

**Claims 73 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710) as above, in further view of Ray et al. (4,961,740)**

No arguments made.

**Claims 77-83 and 89-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan (6,117,174) in view of Michelson (5,785,710) as above, in further view of what would be obvious to one of ordinary skill in the art**

No arguments made.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

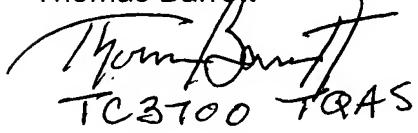
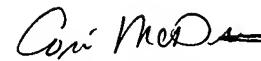
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